REMARKS

Favorable reconsideration of this application in view of the foregoing amendments and remarks to follow is respectfully requested. Since the present amendment raises no new issues, and in any event, places the application in better condition for consideration on appeal, entry thereof is respectfully requested.

Applicants acknowledge, with thanks, the Examiner's indication that Claims 1-26 are allowable. Despite the allowability of Claims 1-26, Claims 27-30 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of German Application No. DE 197 30 975 A ("DE '975") and U.S. Patent No. 5,886,078 to Sullivan, et al. ("Sullivan, et al.").

Before addressing the aforementioned rejection of Claims 27-30, applicants have amended Claims 27, 29 and 30 to positively recite that the claimed method is for detaching a layer from a *semiconducting* substrate. Support for this amendment to Claims 27, 29 and 30 is found throughout the specification of the instant application. See for example, Page 8, line 14 of the specification of the instant application.

Applicants submit that the above amendment was performed to clarify the type of substrate being used is a semiconductor substrate. Hence, the amendment restrictions the type of substrate from any substrates to substrates that are semiconducting. Applicants submit that the above amendment to the claims should be entered since it should not require any additional searching and/or consideration by the Examiner.

Applicants observe that Claims 27-30 are directed towards a method for detaching a layer from a *semiconducting* substrate using a porous layer that is positioned between

the layer for detachment and the *semiconducting* substrate. In accordance with the present invention, a fluid including water is introduced into the pores of the porous layer and thereafter the fluid is frozen such that it expands and breaks apart the porous layer. Thus, in the present invention a fluid including water is deliberating introduced into the porous layer and then the porous layer containing the absorbed water is frozen such that the absorbed fluid expands causing the deliberate removal of the layer from the *semiconducting* substrate. As such, the method of the present invention provides a simple means for effecting layer transfer in *semiconductor technology*.

Applicants submit that the combined disclosures of DE' 975 and Sullivan, et al. do not render the claimed method recited in amended Claims 27-30 obviousness. Specifically, neither applied reference specifically teaches or suggests the deliberate introduction of a fluid including water into a *semiconducting* structure that comprises a layer for transferring and a *semiconducting* substrate and then freezing the structure so as to cause the fluid to expand such that the porous layer breaks apart. The result of the porous layer breaking off is that the layer for transferring is no longer attached to the *semiconducting* substrate.

The English language abstract of DE '975 describes a layer production process in which a porous material layer is produced on or from a substrate using the porous layer as a desired fracture region by producing mechanical stress within or at a boundary surface of the porous material layer. The English language Abstract of DE '975 is deficient since it does not teach or suggest applicants' claimed method for detaching a layer from a *semiconducting* substrate using a porous layer in which a fluid including water is introduced into the pores of the porous layer and thereafter the fluid is frozen such that it

expands and breaks apart the porous layer causing detachment of the layer for transferring from the *semiconducting* substrate.

Applicants observe that in the provided abstract of DE '975 a mechanical stress is mentioned as causing the desired fracture. No specific mentioned however is found in the provided abstract of DE '975 of introducing a fluid into the pores of the porous material layer and thereafter freezing the structure to cause the fluid to expand within the pores of the porous layer and subsequent breaking apart of the layer from the *semiconducting* substrate.

Applicants observe that Sullivan, et al. is applied as a secondary reference for allegedly teaching that water can penetrate into wood based railroad ties and that upon freezing the ties expand and crack due to the stress that is achieved when water penetrates, freezes and expands within the wood railroad ties. Applicants observe that despite this teaching in Sullivan, et al. the secondary applied reference is deficient since it does not teach or suggest the deliberate introduction of a fluid into a porous layer that is positioned between a layer for detaching and a *semiconducting* substrate and then detaching that layer by freezing the structure to cause the fluid to expand within the pores of the porous layer thereby causing the porous layer to break apart. Hence, in the claimed invention, the introduction of a fluid into a porous layer and the subsequent freezing of that fluid are performed so as to cause the layer to be detached from the *semiconducting* substrate.

In the Sullivan, et al. disclosure, the introduction of water into wood railroad ties, freezing of the water and subsequent cracking of the wood railroad ties is a undesired phenomenon of nature that is avoided by replacing the wood railroad ties with plastic

railroad ties. Thus, the disclosure of Sullivan, et al, teaches away from this phenomenon by replacing the porous wood material with a plastic material.

Applicants further observe that in Sullivan, et al., the cracking of wood railroad ties is not limited to a porous layer that is located between a layer and a *semiconducting* substrate, as in the present claimed method. Instead, a random cracking of the wood railroad ties would occur since the wood itself is entirely porous.

In view of the above, applicants submit that one in the semiconductor art would not seek to utilize the phenomenon disclosed in Sullivan, et al. since the Sullivan, et al. disclosure does not teach or suggest that by introducing a fluid into pores of a porous layer that is positioned between a layer and a *semiconducting* substrate and subsequent freezing of the fluid will cause the detachment of the desired layer from the substrate.

In view of the above remarks, the combination of DE '975 and Sullivan, et al. does not render Claims 27-30 obvious.

The § 103 rejection also fails because there is no motivation in the applied references which suggest modifying the disclosed methods to include the various features of the presented claimed invention. That is, there is no teaching in DE '975 or Sullivan, et al. that the undesired phenomenon caused by water penetration, freezing and expansion into wood-based railroad ties could be beneficially employed in the semiconductor art for selectively detaching a layer from a *semiconducting* substrate. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the

prior art suggested the desirability of the modification." In re Fritch, 972 F.2d, 1260, 1266, 23 USPQ F2d. 1780, 1783-4 (Fed.Cir. 1992).

The rejection under 35 U.S.C. § 103 has been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

Leslie S. Szivos
Registration No. 39,394

SCULLY, SCOTT, MURPHY & PRESSER
400 Garden City Plaza
Garden City, New York 11530
(516) 742-4343

LSS/sf